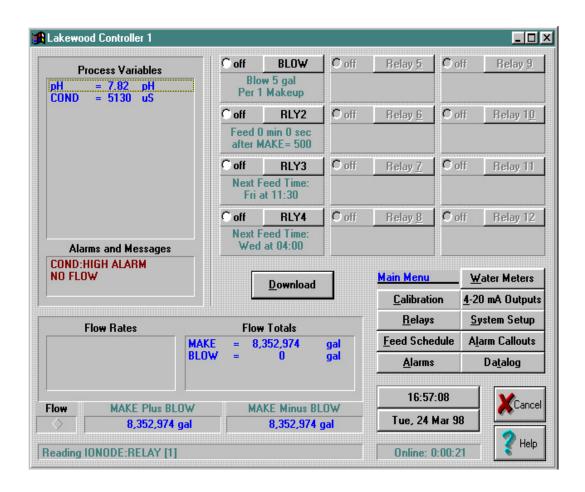
LAKEWOOD INSTRUMENTS REMOTE WINDOWS SOFTWARE

USER'S MANUAL



Lakewood Instruments

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Lakewood Instruments

We thank you for your selection and purchase of an Lakewood Instruments software product.

Please take the time to read and understand this User's Manual, paying special attention to the information about **INSTALLATION**, **OPERATION** and **TECHNICAL SUPPORT**.

If, in the future, any customer or technical support is required, we strongly recommend that you contact us for assistance. Our Customer Service Department is happy to assist you with all your product and information requests.

- Lakewood Instruments Customer Service and Technical Support Departments can be reached by calling (800) 228-0839 or faxing (414) 355-3508, Monday through Friday, 7:30 a.m. 5:00 p.m. Central time.
- **■** Mail should be sent to:

Lakewood Instruments 7838 North Faulkner Road Milwaukee, WI 53224 USA

LAKEWOOD REMOTE WINDOWS SOFTWARE (LRWS)

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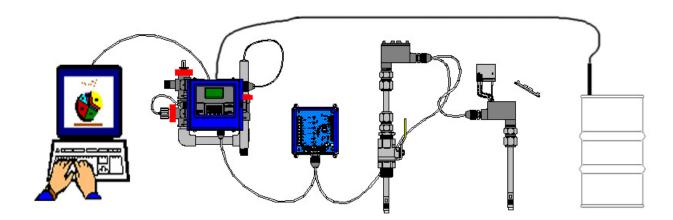


Figure 1: Controller with 1 Relay Node, 2 Conductivity Nodes, and Drum Level Sensor Connected to Personal Computer

Lakewood Remote Windows Software is a communications program that allows you to remotely access Lakewood Instruments 2000 Series Controllers for water treatment and process control via modem or direct connect.

If your controller is equipped with the communications option, *Lakewood Remote* will establish an RS-232 connection between it and your computer over a serial port. If your controller is also equipped with a modem, *Lakewood Remote* will dial out to the controller and initiate a modem-to-modem connection. Virtually every one of the programming options that you can access through the controller's menu/keypad is available over the serial connection.

INSTALLATION

Lakewood Remote runs in Windows 3.1, 95, 98, 2000, NT or XP. It is designed for easy installation and ease of use. Follow these simple steps to install your copy of Lakewood Remote:

Insert your *Lakewood Remote* disk into your floppy disk drive.

Run the application **install.exe** on the floppy disk.

You will be given the opportunity to determine the directory where the program files will be installed (see **Figure 2** below). **LWREMOTE** is the factory default that you can select by clicking on **OK**. Otherwise, type in a different name using the proper hard drive designator (i.e., **C:\)** then click on **OK**.

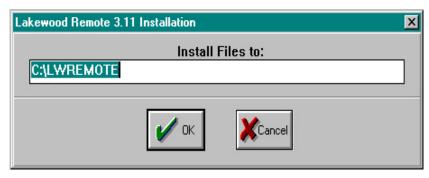


Figure 2: Installation Directory

If you have already installed *Lakewood Remote* on your hard drive, you will see the screen below (**Figure 3**). Click on **YES** to reinstall the software. Click on **NO** if you want to retain the previously installed version.



Figure 3: Overwrite Permission

The screen below (**Figure 4**) will appear as your program is being installed. The names of the files will appear in the first box and the second box will show you the percentage installation done.

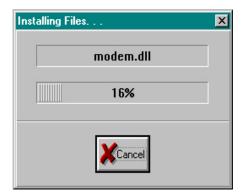


Figure 4: Installation Progress

On most computers, the installation process will take very little time. Upon completion, you will see the following dialog box, indicating that LRWS Versions 3.1 and higher are Year 2000 compliant.

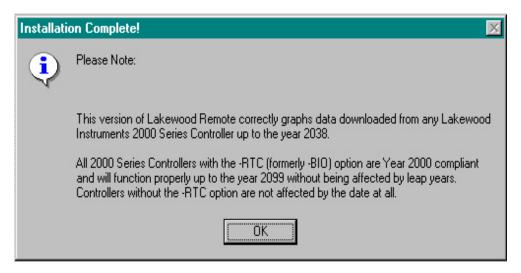


Figure 5: Installation Complete and Year 2000 Compliant Message

Click on **OK** and you will see (**Figure 6** on next page) that a *Windows* Program Group was established with a *Lakewood Remote* icon and a *Lakewood Graph* icon.

INSTALLATION

Double-click on the Lakewood Remote icon (Figure 6 below) to enter the program.



Figure 6: Windows 95 Program Group Created

If you have difficulties at any time during the installation processs, you may see the following screen (**Figure 7**). In most instances, simply closing all other open programs, and attempting installation again will prove successful.



Figure 7: Unsuccessful Installation Dialog

The screen below is the first screen you will see in *Lakewood Remote*. It is the Main Menu. This instruction manual will step you through the menu options beginning with Modem Preferences so you can select the proper Port and Modem settings that enable you to use the rest of the Menu options.



Figure 8: LRWS Main Menu Bar

CONTROLLERS

The **Controller** portion of the Main Menu allows you to identify your controllers. Click on **Controllers** to enter this portion of the Menu.



Figure 9: Click on Controllers to Begin

As you can see on the next page (**Figure 10**), the **Controllers** screen will be blank—except for the **Lakewood Controller**, **Milwaukee** entries—until you have entered new controllers. In the future, all the names and phone numbers you have entered will be listed on this screen for quick and easy selection. (The controller identifier numbers are automatically generated by the controller the first time it is connected with *Lakewood Remote*.) Once you've entered this information, you can simply select the controller you want, then click on **Connect** and *Lakewood Remote* will dial up that controller.

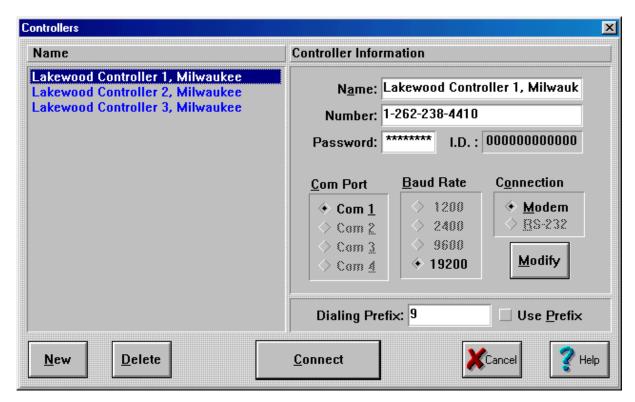


Figure 10: Controller Connection Screen

DELETE

Highlight an item and click on **Delete** if you want to completely remove a controller from the list. You will be asked whether you want to delete the highlighted item with the following screen. Click on **Yes** or **No**, depending on your choice.

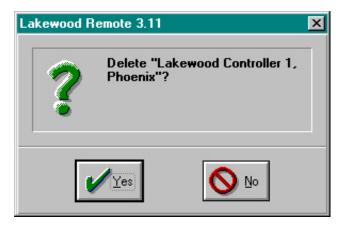


Figure 11: Delete a Controller

MODIFY

Use **Modify** if you want to make changes to the information entered on a specific controller (i.e., **Name** or phone **Number**).

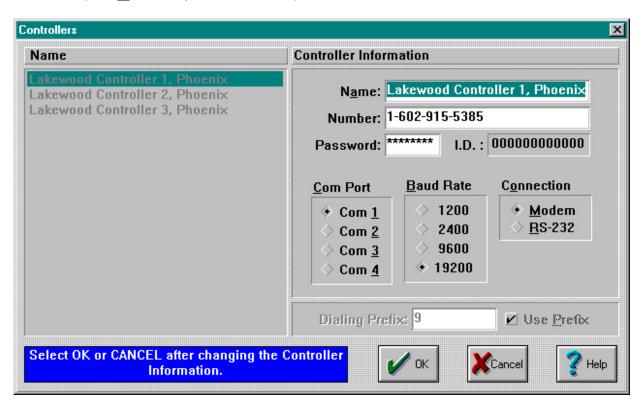


Figure 12: Modify Controller Information

NEW

To set up a new controller, click on **New** (see **Figure 10**) and you will see the following screen:

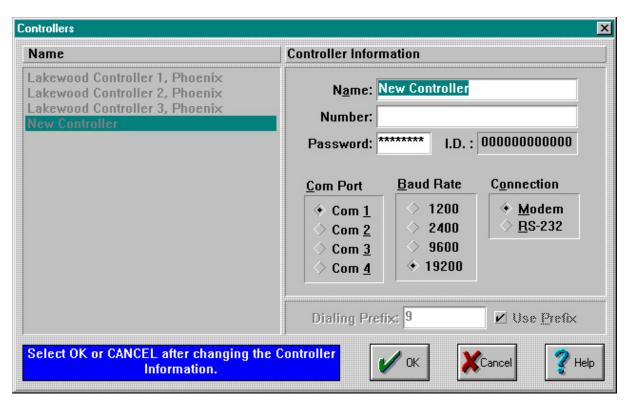


Figure 13: Enter a New Controller

Enter a <u>Name</u> for the controller, then press the **TAB** key. Enter the phone **Number** for the controller, then press the **TAB** key again. A factory-default **Password** has already been entered for every new controller input. Unless there is a strict need for security, you should not enter your own password. If you do, you must also change the password at the controller as well. Make sure you document that password for future reference as needed.

Select the correct **Com Port** and **Baud Rate** for your connection. If you are using a modem, select the **Connection** marked **Modem**; otherwise select **RS-232**. For most high-speed modems, 19200 baud works fine. If you are using RS-232, you must program the controller's baud rate to match the baud rate you select here. The default controller baud rate for RS-232 is 19200.

CONNECT

Once you have set up a new controller, or a number of them, simply highlight the controller you want to connect to and click on the **Connect** button. You will see a series of screens while the modem dials up the controller. If you have problems connecting, first make sure you have the proper port and modem settings selected, then make sure you have the correct number. Make sure your wiring is properly connected. Finally, refer to the Troubleshooting guide in the program's Help Menu for additional assistance. If this does not correct the problem, contact your Lakewood Instruments Lakewood Instruments Technical Service Representative at 800-228-0839.

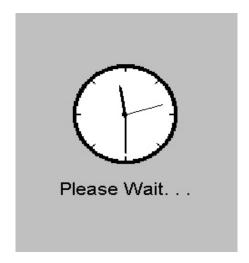


Figure 14: Modem Preparation Screen

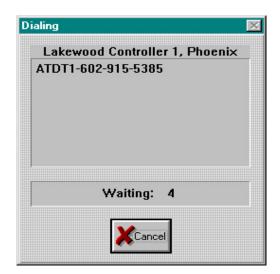


Figure 15: Connection Screen

THE MAIN SCREEN

After you click on the **Connect** button, you will see the following screen (**Figure 16** below). Take a minute to look at the total screen below, which is an example from a Model 2412 Controller. The information shown represents the current readings from your controller. *Lakewood Remote* frequently updates this information.

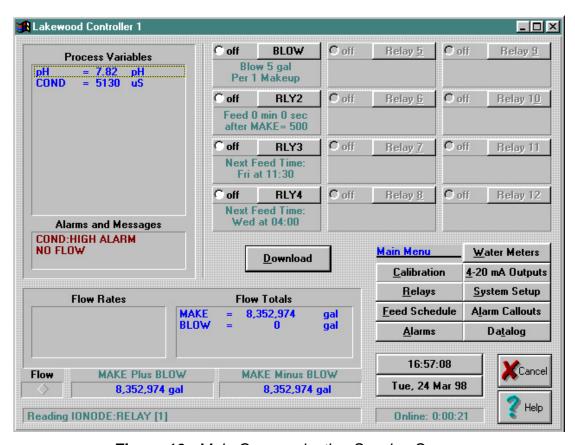


Figure 16: Main Communication Session Screen

The buttons along the bottom of the screen allow you to access the same controller features that you can access via the controller's keypad/display. For example, the **Alarms** button allows you to view or change the high/low process alarm values. Additional buttons include:

Options Program the alarm callout and datalog options. The alarm callout option allows you to program which alarms cause the controller to call out to a computer or paging device. The datalog option allows you to select which values are included in the controller's datalog.

Time Set the time by clicking on the time-setting button, then type in the proper time by hours/minutes/seconds.

Date Set the calendar by clicking on the date button, then type in the proper calendar information by day/date/month/year.

The larger portion of the screen above shows current readings from the controller. The bottom line, **Reading**, shows you which elements are being read and updated.

DOWNLOAD

The controller stores accumulated data selected by the user in its battery-backed memory. To access this data, click on the **Download** button. The following screens will appear:

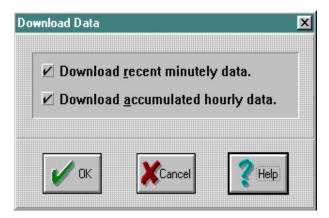


Figure 17: Download Options Screen

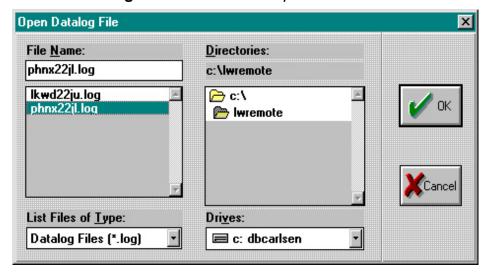


Figure 18: Enter Name of Datalog File

After you enter the name of the datalog file, if you left both forms of downloaded data selected, you will see a screen titled **Download Minutely Data**. In a couple of minutes, the **Download Recent Minutely Data** will be completed and the

screen will change to reflect **Accumulated Hourly Data** that is being downloaded.

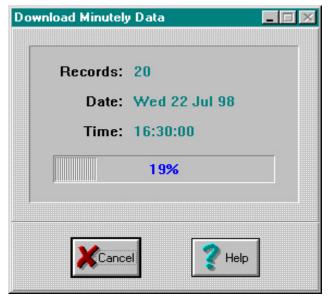


Figure 19: Download Progress Screen

HOW THE DATALOG INFORMATION IS CREATED

Conductivity and pH values are datalogged three different ways:

(Avg) The average reading during that hour.

(Hi) The high reading during that hour.

(Lo) The low reading during that hour.

Other datalogged parameters:

(Relay) Relay on-times are displayed in minutes (from the start of each hour).

(Meter) Water meter inputs are displayed in gallons or liters.

All alarms are datalogged during the minute they occur and will be included in the minutely and hourly download. During an alarm condition, all process values selected to be datalogged will be included in the minutely and hourly download.

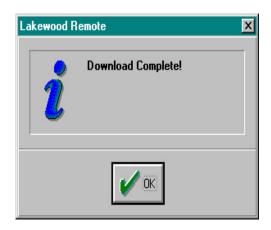


Figure 20: Finished Downloading Data

Once the download is completed, you will see the screen above (**Figure 20**). You can use *Lakewood Graph* to view the contents of the datalog file.

You may also have *Lakewood Graph* export selected data to a *comma-delimited* file (extension will be *.prn). You can then import the data into your own spreadsheet software.

SETUP

MODEM SETTINGS

Click on **Setup**, then **Modem Settings**.

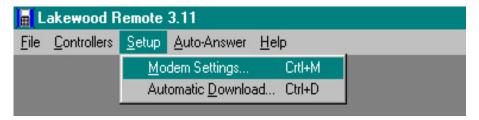


Figure 21: Choose Modem Settings

The values shown in the <u>Modem Settings</u> screen on the next page (**Figure 22**) are typical settings. For different modem strings, use your modem software reference manual. For many modems, but not all, these factory-preset defaults will be the proper settings.

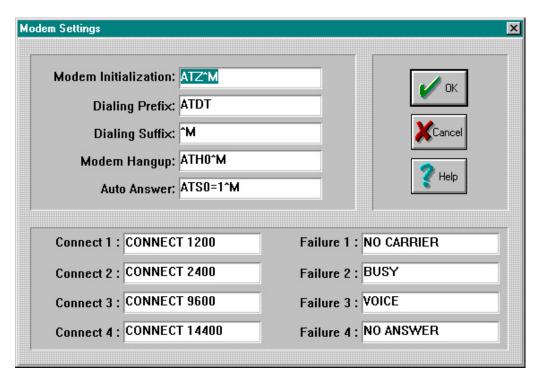


Figure 22: Modem Settings Screen

Click on **OK** to return to the Main Menu after you make changes or simply review the settings.

AUTOMATIC DOWNLOAD

Select this option from the Setup Menu to configure *Lakewood Remote* to call up one or more controllers at user-specified dates and times in unattended mode.

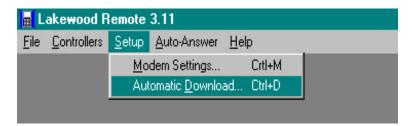


Figure 23: Select Automatic Download

Lakewood Remote must be running at the date(s) and time that you select in order for the automatic download to occur. If Lakewood Remote is in Auto-Answer mode, then the Auto-Answer process will be interrupted for the duration of the automatic download and then resumed at the conclusion of the download.

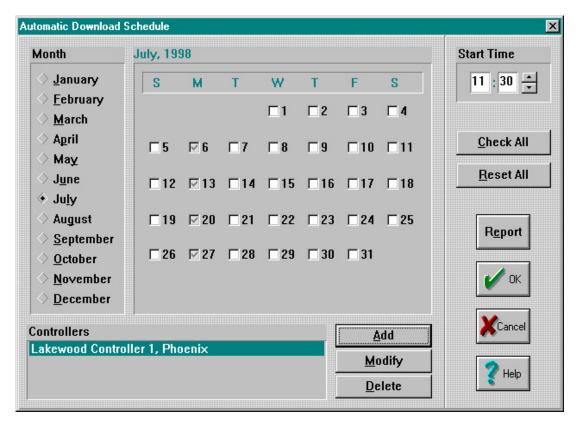


Figure 24: Automatic Download Schedule Screen

MONTH

Select a month during which you want to perform automatic downloading. The date calendar to the right will change with the selected month.

CALENDAR

Darken the squares that correspond to the dates on which you want to perform an automatic download.

START TIME

Select the time (Hours:Minutes, 24-hour clock) when the download is to take place. *Lakewood Remote* will attempt to execute the download at this same time on each one of the selected dates.

CHECK ALL

Push this button to darken every date shown on the calendar for the selected month.

RESET ALL

Push this button to deselect every date shown on the calendar for the selected month.

REPORT

Push this button (see **Figure 24** on previous page) to bring up a report of automatic download attempts (successes and failures). The report shows (a) the date and time that *Lakewood Remote* attempted the download, (b) the name of the controller, (c) the event (what happened), which may be one of the following:

Successful Download: The automatic download took place as scheduled.

Com Port Error: Lakewood Remote could not open the com port for the indicated controller. You may want to inspect the com port settings for this controller.

Modem Dial Error: *Lakewood Remote* could not connect to the controller via the modem. You may want to test this by connecting to the controller manually.

User Abort: The user pressed the Cancel button on the modem dial dialog before *Lakewood Remote* could connect to the controller.

Error During Download: An unknown error occurred during the download. Some of the controller data may have been saved to the indicated file.

...and (d) the name of the datalog file that contains the downloaded data. The first five characters of this filename are the same as the File ID that you program via the **Add** or **Modify** buttons; the last three characters are digits with the value 000 through 999. *Lakewood Remote* increments this 3-digit value each time it automatically downloads data from a particular controller.

Report entries are logged in order of most recent download attempt first. A sample report listing might appear as follows:

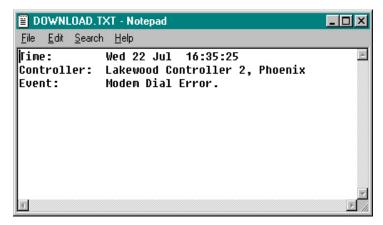


Figure 25: Report File Named DOWNLOAD.TXT

If you have never downloaded anything, you will get the following screen and a new DOWNLOAD.TXT file will be created when you click on "Yes"..

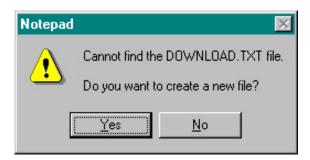


Figure 26: Creation of New DOWNLOAD.TXT File

Other examples of what may appear in the automatic download report are seen below:

Time: Fri 2 Feb 18:48:55

Controller: West Tower

Event: Successful Download.

File: WTOWR008.LOG

Time: Fri 2 Feb 18:47:48

Controller: East Tower
Event: Com Port Error.

If you click on the **Add** or **Modify** buttons on the Automatic Download Schedule screen (see **Figure 24**) shown earlier, the following screen will appear:

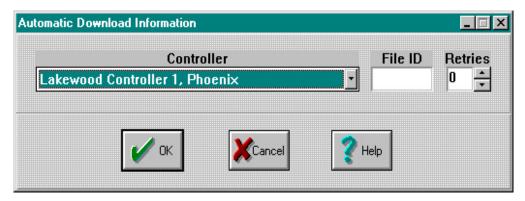


Figure 27: Add or Modify Controller Information

<u>A</u>DD

Click on this button to add a controller to the Automatic Download list.

MODIFY

Click on this button to modify the **Automatic Download** information for the selected controller.

DELETE

Click on this button to remove a controller from the **Automatic Download** list. The following screen will appear confirming your deletion request.

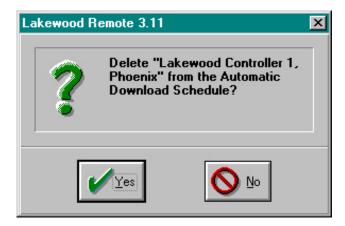


Figure 28: Confirmation of Delete Function

LAUNCH

Lakewood Remote has an **Auto-Answer** feature that allows you to monitor on your screen any alarm calls from a controller. All alarms are logged in a text file (alarmlog.txt is the default name). Simply click on <u>Auto-Answer</u> in the Main Menu and select **Launch**...

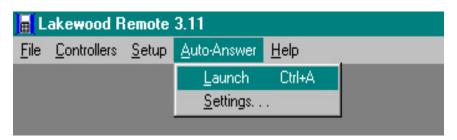


Figure 29: Launch Auto-Answer Mode

...and the screen Waiting for Alarm Call will appear as shown below.



Figure 30: Waiting for Alarm Call Screen

Click on the <u>View</u> button to display the contents of the Alarm Log. The Alarm Log file contains a history of callouts from one or more controllers. Leave *Lakewood Remote* set at this **Waiting for Alarm Call** screen, and whenever an alarm call from a controller occurs, the program logs the time of the call read from both the PC and the controller, and documents whatever alarms are currently present on the controller.

Here is an example of a typical entry in the Alarm Log file:

Thu 29 Mar 14:51:15 (PC)

Thu 29 Mar 14:48:19 (West Tower) NO FLOW LOW CONDUCTIVITY

The call in the above example arrived on Thursday, the 29th of March at 14:51:15 (according to the PC). The call was made by the controller called "West Tower." The time of day read from the controller was **Thu 29 Mar 14:48:19**. The alarms present on the controller at the time of the call were **NO FLOW** and **LOW CONDUCTIVITY**.

New alarm calls are logged at the top of the Alarm Log file. *Lakewood Remote* does not allow the file to exceed 43,000 bytes. Once the file exceeds that size, the oldest data at the end of the file starts to disappear.

SETTINGS

Select this option from the **Auto-Answer** menu to configure your modem for answering a call from a controller.

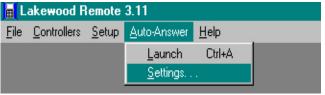


Figure 31: Modify Auto-Answer Settings

In order for *Lakewood Remote* to receive an alarm call from a controller, it must use the specified com port and baud rate to access your computer's modem. Select the appropriate COM PORT and BAUD RATE settings for your computer.

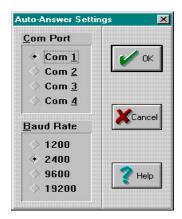


Figure 32: Modem Settings for Auto-Answer

There are two ways to enter *Lakewood Graph*. The first is through the Main Menu of *Lakewood Remote*. Click on **File**, then select **Open Logfile**.

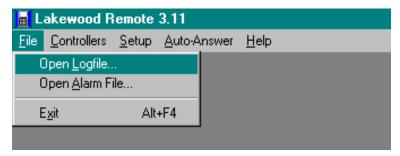


Figure 33: Open Logfile to Enter Lakewood Graph

The other procedure is to return to the *Windows* Program Manager, select the Lakewood Program Group and click on the *Lakewood Graph* icon to enter *Lakewood Graph*.

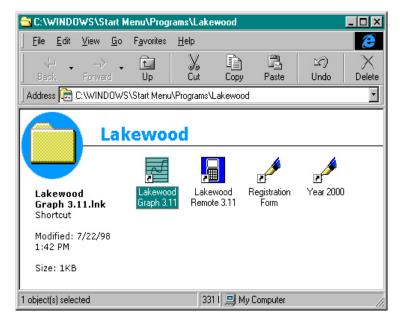


Figure 34: Select Lakewood Graph Icon to Enter Program

OPEN DATALOG FILE

In both cases, the first screen you will see is the **Open Datalog File**.

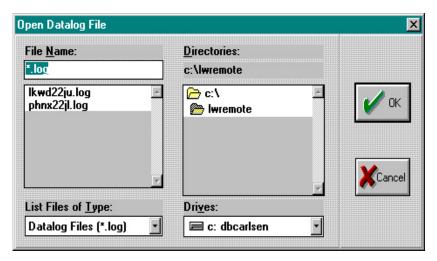


Figure 35: Open Datalog File

Under **File Name** will be a list of previously named datalog files which contain downloaded information from your controller. In this example, there is a datalog file named **phnx22jl.log** located on the **C** drive in the **lwremote** directory. In order to operate *Lakewood Graph*, you must have a datalog file established, since that is the information used to create the graphs.

To establish a datalog file, return to *Lakewood Remote*'s menu and select **Controller**. You should **Connect** to call up a controller, then use the **Download** function to create a datalog file.

In **Open Datalog File**, select the proper drive to retrieve a datalog file by clicking on the down arrow below **Drives**, then clicking on **A:**, **B:** or **C:**. Also, you can determine whether you list all files or just the datalog files in a directory by clicking on the down arrow below **List Files of Type**, and you will see the selections **Datalog Files (*.log)** and **Any File (*.*)**.

SELECT AN OBJECT

Lakewood Graph will compile information on the object you select. If you select **pH (Lo)**, for example, then Lakewood Graph will pull the information relevant to **pH (Lo)** from the datalog file and graph or export it for you. If no information was downloaded relevant to the object selected, a named but blank graph will appear.

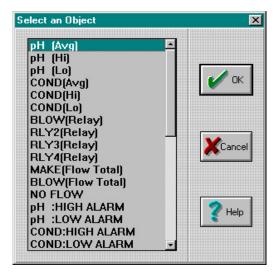


Figure 36: Select an Object to Graph

While in *Lakewood Graph*, after having already opened a datalog file, you can select a new object by clicking on **Graph** in the Main Menu, then clicking on **New** in the submenu. The **Select An Object** screen will appear again for you to make a new selection. Subsequent graphs will show the new object you select.

VIEWING OPTIONS

Once you have created a graph and have it on the screen, *Lakewood Remote* offers some viewing options (see **Figure 37** below). You can select a section of the graph to view exclusively. Simply click the left mouse button while at one viewpoint, then drag your cursor to another viewpoint and click the left mouse button again. The box created defines the graph parameter to be shown in zoom mode. Simply click on the right mouse button to return to the full-view mode.

As you move the cursor around the graph, note that the Value/Date/Time information changes at the bottom of the graph to accurately represent the point where the cursor rests.

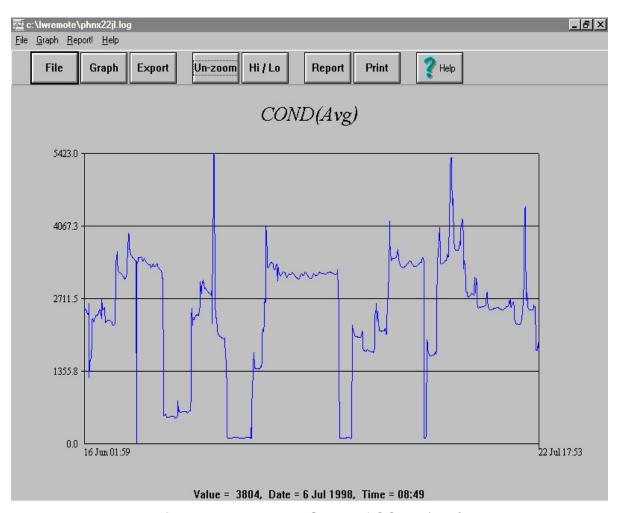


Figure 37: Example Graph of COND (Avg)

While in a datalog file, you can select Report from the Main Menu and it will bring up a *Notepad* text file that shows the graphed data in the following format:

■ REPOR	IT.TXT - N	otepad	_ 🗆 ×
<u>F</u> ile <u>E</u> dit	<u>S</u> earch <u>F</u>	<u>-l</u> elp	
File:	c:\lwre	mote\phnx22j1.log	
Time:	Thu Jul	23 12:24:10 1998	
Date	Time	COND(Avg)	
16 Jun	1:59	2532	
16 Jun		2532	
16 Jun		2532	
16 Jun	2:01	2528	
16 Jun	2:04	2526	
16 Jun	2:04	2526	
16 Jun	2:06	2525	
16 Jun		2525	
16 Jun 16 Jun	2:10	2525 2525	
16 Jun		2525 2525	
	2:12	2525 2524	
16 Jun		2524	
	2.12	2727	_
1			b //

Figure 38: Example REPORT.TXT of Graphed Data

Note that in this example, the datalog object selected is **COND** (Avg). This report shows the measured values for whichever object you select. The report also shows you the drive and directory where your datalog file is stored. The current date and time are on the line called Time.

You can export data in comma-delimited format to your own data processing application. First enter the **File** Menu and click on **Export**, or, click on the **Export** button as shown below.

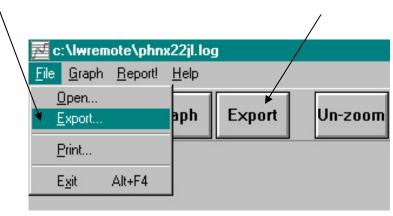


Figure 39: Click on Export Button

A screen with a list of parameters, a date field and a time field will appear. Click on the parameters you want selected, then establish the desired date and time you want included in the exported data. Click on **OK** when your selections are completed. *Lakewood*

Remote will compile a comma-delimited file that can be downloaded and used by many spreadsheet applications.

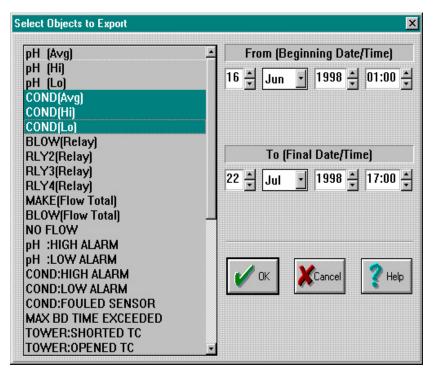


Figure 40: Selecting Objects to Export

In the above example, the user has selected **COND (Avg)**, **COND (Hi)** and **COND (Lo)** over the period **16 June 1998**, **01:00** to **22 July 1998**, **17:00**. Clicking OK will create the export file. The dialog box shown below is displayed upon completion.

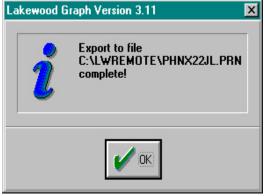


Figure 41: Data Export Completed

TECHNICAL SUPPORT

If you need technical support for your *Lakewood Remote Windows Software*:

Technical Service/Return Material Procedure

Lakewood Instruments Technical Support for the LRWS software and related products can be reached by calling (800) 228-0839 or faxing (414) 355-3508, Monday through Friday, 7:30 a.m. – 5:00 p.m. Central time.

<u>NOTE</u>: IF YOU CALL FOR TROUBLESHOOTING HELP, PLEASE MAKE SURE THAT THE MODEL NUMBER, SERIAL NUMBERS AND ANY INFORMATION ABOUT OPTIONS ARE ALL READILY AVAILABLE FOR REFERENCE.

Mail and returns should be sent to:

Lakewood Instruments 7838 North Faulkner Road Milwaukee, WI 53224 USA

When any merchandise is returned to the factory, please call and obtain a return goods authorization order (RGA) number and have the following information available:

- Customer's name, address, phone and fax numbers (shipping and billing).
- A hard copy purchase order number (no exceptions) for cases where repairs or parts are required that are not under warranty.
- A contact person's name and phone number to call if the equipment is beyond repair or to discuss any other warranty matter.
- Equipment model and serial numbers.
- Reason for return, e.g., repair, warranty, incorrect part, etc.

We will then fax to your attention an RGA form that must accompany the returned item.

<u>NOTE</u>: THE RGA NUMBER MUST BE CLEARLY WRITTEN ON THE OUTSIDE OF THE PACKAGE(S) BEING RETURNED.

ANY ITEMS SENT BACK TO THE FACTORY
WITHOUT AN RGA NUMBER WILL BE REFUSED
AND RETURNED TO SENDER

TECHNICAL SUPPORT

Troubleshooting

Here is a small list of common problems and solutions. We'll add to this as future versions of Lakewood Remote come along.

You can test your Lakewood Remote software on one of our Controllers here at Lakewood Instruments by dialing out to (414) 355-3628 (if you have a modem, of course).

Error Opening Serial Port, The Com Port Is Already in Use

You may have another application that runs in Windows that is utilizing the com port, such as another communications program or fax program. You need to quit the other application before you can use that serial port with Lakewood Remote.

Error Opening Serial Port, The Com Port is Not Available

You have selected the wrong serial port. You may have a mouse or other device assigned to this particular serial port. Note that, on many IBMPC-compatible computers, Windows will not allow you to use Com1 at the same time as Com3, and it will not allow you to use Com2 at the same time as Com4.

Error Opening Serial Port, Insufficent Memory

Quit one or more applications, and try again.

Error Reading Data from the Controller

If you are never able to get through to the Controller because of read errors, then you may be using an incorrect baud rate. If you are connecting via RS-232 rather than modem, then you may be using an incorrect Com port. To change the com port, see Controllers.

Error Initializing Modem

You may be using the wrong serial port. Or, you may be running at the wrong baud rate. Try using a very slow baud rate, like 1200. Or, you may be using an incorrect Modem Initialization String. Refer to your modem documentation (see also Controllers and Modem Settings).

TECHNICAL SUPPORT

Modem Won't Dial Out

Are you getting the "NO DIAL TONE" message? If so, your modem may not be connected to a phone line, or the phone line may be out of service. You can test this by connecting a hand receiver to the phone jack and dialing out manually. Or, the modem initialization may not have worked correctly (see also Modem Settings).

Modem Dials Out, But Doesn't Connect

Are you sure the Controller at the other end of the line is up and running? Try dialing the Controller's number by voice phone. You should hear a modem squeal once you dial into the Controller.

Modem Connects, But Lakewood Remote Doesn't Recognize Connection

Try enabling echo on your modem. On most modems, you can do this by adding "E1" to the Modem Initialization String. Or, you may be attempting to connect an asynchronous modem to a synchronous modem. If your computer modem can run at high baud rates (such as 9600 and up), but the Controller's modem only runs at 1200 or 2400, you may need to put your computer's modem into synchronous mode. For example, on Hayes brand modems, you can do this by adding "&Q0" to the Modem Initialization String. See also Modem Settings.

Controller Is Always Busy

The Controller may be attempting to call out an alarm at the time you are calling it. Wait 5 or 10 minutes and try again. Or, someone else may be accessing the Controller.

For more information call toll free in the USA (800) 228-0839

Manufactured in the USA

Lakewood Instruments

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